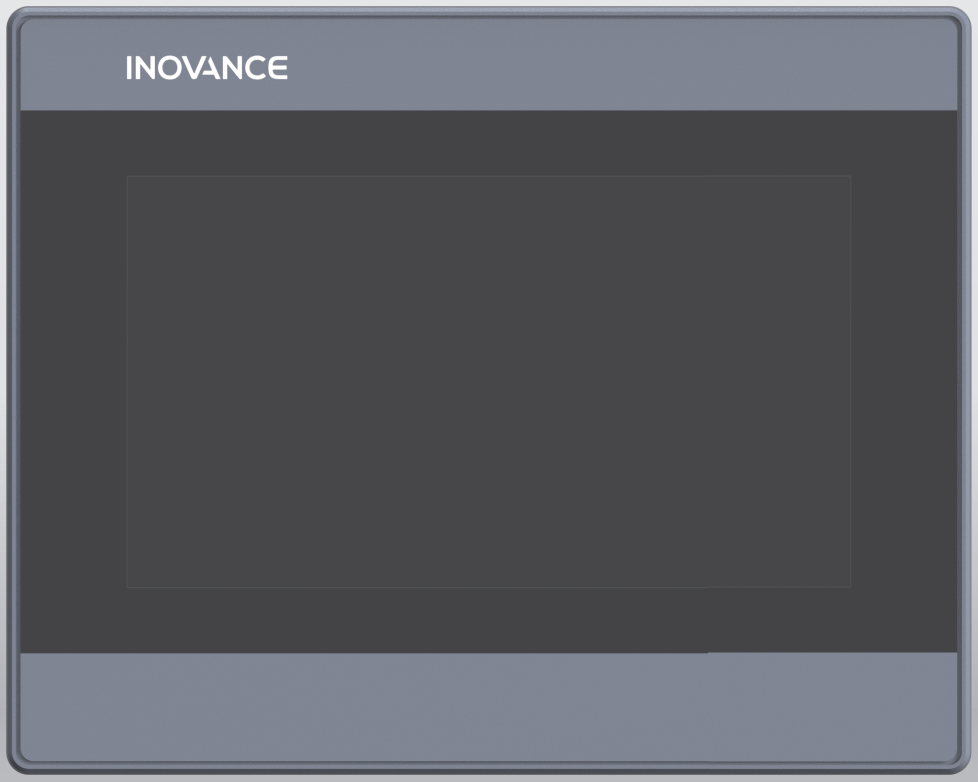
INOVANCE

Advancing industrial technology,
for a better world



ITS7043-INT Series HMI

User Guide

Industrial Automation | New Energy Vehicle | Intelligent Elevator | Intelligent Robot | Digital Energy | Rail Transit

Data code PS00022352A01

Legal Information

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Disclaimer of Liability

Due to continuous updates and improvements of products and technologies, the content of this documentation may not fully match the actual products. In the event of any discrepancies, the actual products shall prevail.

The contents are subject to change without notice due to product upgrade.

Waste Disposal

The storage, use, and disposal of this product (including optional accessories) must comply with local laws and regulations.

Qualified Personnel

The product/system described in this documentation may be operated only by personnel qualified for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel can identify the risks of the product/system and prevent possible dangers.

Proper Use of the Product

Proper transportation, storage, assembly, installation, commissioning, operation, and maintenance are required to ensure the safe operation of the product without any problems. The required ambient conditions must be met. All operations must follow the guidelines provided in this documentation.

Preface

Introduction

This HMI is developed based on Linux architecture and adopts Android-style interfaces to provide users with friendly interactive experience. It features strong structural compatibility, supporting dimensions and installation of ITS7000 and other popular HMIs. The front panel complies with IP66 requirements to withstand harsh environments. The rear panel is equipped with a Type-A interface to connect to USB printers.

This guide describes the specifications, characteristics and using methods of the product. Please read this guide carefully before using to ensure more safe usage. For details on use of user program development environment and user program designs, see the InoTouchPad *Help Guide.* Visit our website (https://www.inovance.com/global) for the latest version of the software.

Note

- The user guide is subject to change without notice due to product upgrade, specification modifications as well as efforts to improve the accuracy and convenience of the user guide.
- The drawings in the user guide are shown for illustration only and may be different from the product. Actual products may vary.

More documents

Document	Code	Description
InoTouchPad Help Guide	PS00002706	Introduces the installation, basic operations, controls, project configuration, and functions of the InoTouchPad software.
ITS7043-INT Series HMI User Guide (This guide)	PS00022352	Introduces the technical specifications, installation dimensions, installation method, and commissioning of ITS7000 series 4.3-inch products.

Revision history

Date	Version	Revision
April 2026	A01	Minor corrections.
March 2026	A00	First release.

Access to the guide

This guide is not delivered with the product. You can obtain the PDF version in the following ways:

- Visit https://www.inovance.com/global, and choose Service&Support > Support > Documentation Download.
- Scan the QR code on the equipment to acquire more information.
- Scan the QR code below to install the My Inovance app, where you can search for and download user guides.



Warranty disclaimer

Inovance provides warranty service within the warranty period (as specified in your order) for any fault or damage that is caused by proper operation of the user. Maintenance will be charged after the warranty expires.

Even within the warranty period, maintenance will be charged for the following product damage:

- Damage caused by operations not following the instructions in the guide
- Damage caused by fire, flood, or abnormal voltage
- Damage caused by using the product for unintended functions
- Damage caused by using the product outside the specified scope
- Damage or secondary damage caused by force majeure (natural disaster, earthquake, and lightning strike)

The maintenance fee will be charged according to the latest Price List of Inovance. If otherwise agreed upon, the terms and conditions in the agreement shall prevail.

For details, see Product Warranty Card.

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1 Fundamental Safety Instructions

1.1 General Safety Instructions

Safety disclaimer

1. Read through the safety instructions before installing, operating, and servicing the equipment, and comply with these instructions.
2. To ensure personal and equipment safety, observe the notes indicated on the product labels and all the safety instructions in the user guide.
3. The "CAUTION", "WARNING", and "DANGER" are only supplements to the safety instructions.
4. Use this product according to the designated environment requirements. Damage caused by improper use is not covered by warranty.
5. Inovance shall take no responsibility for any personal injury or property damage caused by improper use.

Safety levels and definitions



The "DANGER" sign indicates that failure to comply with the notice will result in severe personal injuries or even death.



The "WARNING" sign indicates that failure to comply with the notice may result in severe personal injuries or even death.



The "CAUTION" sign indicates that failure to comply with the notice may result in minor or moderate personal injury or equipment damage.

Unpacking
 • Do not install the product in the case of any damage, rust, or signs of use on the product or accessories upon unpacking. • Do not install the product in the case of water seepage into the product or missing or damaged components upon unpacking. • Do not install the product in the case of any discrepancy between the product you received and the product name on the packing list.
 • Check whether the packing is intact and whether there is damage, water seepage, dampness, and deformation before unpacking. • Unpack the package by following the unpacking sequence. Do not strike the package violently. • Check for damage, rust, or scratches on the surfaces of the product and accessories upon unpacking. • Check whether the package contents are consistent with the packing list after unpacking.

Storage and transportation

• Large-scale or heavy equipment must be transported by qualified professionals using specialized hoisting equipment. Failure to comply may result in personal injury or equipment damage. • Before hoisting the equipment, ensure that components such as the front cover and terminal blocks are secured firmly with screws. Loosely-connected components may fall off and result in personal injury or equipment damage. • Never stand or stay below the product which is being hoisted. • Hoist the equipment at a constant speed with a steel rope to prevent any vibration or shock to the equipment. Never turn the equipment over or keep it suspended for a long time. Failure to comply may result in personal injury or equipment damage.

• Handle the equipment with care and mind your steps during transportation to prevent personal injury or equipment damage. • When carrying the equipment with bare hands, hold the enclosure firmly with care to prevent parts from falling. Failure to comply may result in personal injury. • Store and transport the equipment based on the storage and transportation requirements. Failure to comply may result in equipment damage. • Do not store or transport the equipment in equipment exposed to splashing water or rain, direct sunlight, strong electric field, strong magnetic field, or strong vibration. • Do not store the equipment for more than three months. Long-term storage requires stricter protection and necessary inspections. • Pack the equipment securely and properly before transportation. Use a sealed container for long-distance transportation. • Do not transport the equipment with other devices or materials that may harm or have negative impacts on the equipment.

Design

• Design a safety circuit and add an error handling program in the software to ensure the product remains in a safe state upon external power failure or product faults. • Add an external safety device such as a fuse or circuit breaker because the equipment may smoke or burn due to long-time overcurrent caused by a rating error or short-circuited load.

• When an output unit such as a relay or transistor in the equipment is damaged, the output may become uncontrollable and remain ON or OFF for a long period. • The equipment design must comply with the overvoltage category requirements specified in the environmental specifications. The power supply must have a system-level lightning protection device, assuring that overvoltage due to lightning shock cannot be applied to the power supply input terminals, signal input terminals, or output terminals, to prevent equipment damage. • Make sure that proper measures have been taken to avoid malfunction caused by the communication faults between the equipment and related devices, preventing personal injury or equipment damage.

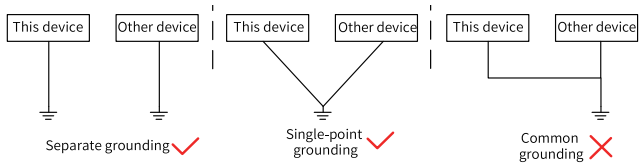
Do not create, on the touch screen of the HMI, switches that may result in personal injury of the operator or equipment damage. Use independent switches for performing critical operations. Failure to comply may result in accidents caused by wrong outputs or faults.

Installation
DANGER The equipment must be operated only by professionals with electrical knowledge. Non-professionals are not allowed.
WARNING • Read through the guide and safety instructions before installation. • Do not install this equipment in places with strong electric or magnetic field. • Before installation, ensure that the mechanical strength of the installation site can bear the weight of the equipment. Failure to comply will result in mechanical hazards. • Before installation, ensure that the installation environment meets the specifications. Failure to comply will result in product damage. • Do not wear loose clothes or accessories during installation. Failure to comply may result in an electric shock. • Before installing the equipment in an enclosed environment (such as a cabinet or case), use a cooling device (such as a fan or air conditioner) to cool the environment to the required temperature. Failure to comply may result in equipment over-temperature or a fire. • Do not retrofit the equipment. • Do not fiddle with the bolts used to fix equipment components or the bolts marked in red. • The equipment shall be installed in a cabinet or terminal device. Protection measures such as a fireproofing shell, electric protection shell, or mechanical protection shell must be provided for the cabinet or terminal device. The IP level must meet IEC standards and local laws and regulations. • Before installing devices with strong electromagnetic interference, such as a transformer, install a shielding device for the equipment to prevent malfunction. • Install the equipment onto an incombustible object such as a metal. Keep the equipment away from combustible objects. Failure to comply may result in a fire. • For any equipment not supporting hot swapping, disconnect all external power supplies of the system before installing/disassembling the equipment. Failure to comply may result in an electric shock or equipment fault or malfunction.
CAUTION • Cover the top of the equipment with a piece of cloth or paper during installation. This is to prevent unwanted objects such as metal chippings, oil, and water from falling into the equipment and causing faults. After installation, remove the covering to prevent it from blocking the vent, which may affect the heat dissipation and cause the equipment to overheat. • During installation, ensure the equipment is connected to the respective connector securely and hook the equipment firmly. Improper installation may result in malfunction, fault, or fall-off.

Wiring

DANGER

- The equipment must be operated only by professionals with electrical knowledge. Non-professionals are not allowed.
- Before wiring, cut off all the power supplies of the equipment. Wait for at least the time designated on the equipment warning label before further operations because residual voltage still exists after power-off. Measure the DC voltage of the main circuit and make sure that it is below the safety voltage. Failure to comply may result in an electric shock.
- Do not perform wiring, remove the equipment cover, or touch the circuit board with power-on. Failure to comply may result in an electric shock.
- Make sure that the equipment is grounded properly. Failure to comply may result in an electric shock. Separate grounding or single-point grounding, other than common grounding, is recommended.



- Insulate the cable terminals properly to ensure the insulation distance between cables will not be shortened after cables are connected to the terminal block. Failure to comply may result in an electric shock or equipment damage.
- Install the terminal cover attached to the equipment before power-on or operation after wiring is done. Failure to comply may result in an electric shock.

WARNING

- Do not connect the power cable to output terminals of the equipment or product. Failure to comply may cause equipment damage or even a fire.
- Cables must meet size and shield requirements. The shield must be reliably grounded at one end.
- Fix the terminal screws with the tightening torque specified in the guide. Improper tightening torque may cause the connecting part over-temperature or damage, resulting in a fire.
- After wiring is done, check that all cables are connected properly and no screws, washers or exposed cables are left inside the equipment. Failure to comply may result in electric shock or equipment damage.

CAUTION

- Follow the proper electrostatic discharge (ESD) procedure and wear an anti-static wrist strap to perform wiring. Failure to comply may result in damage to the equipment or to the internal circuit of the product.
- Use shielded twisted pairs for the control circuit. Connect the shield to the grounding terminal of the equipment for grounding purpose. Failure to comply will result in equipment malfunction.

Power-on

DANGER

- The equipment must be operated only by professionals with electrical knowledge. Non-professionals are not allowed.
- Before power-on, check that the equipment is installed and wired properly.
- Before power-on, make sure that the power supply meets equipment requirements to prevent equipment damage or even a fire.
- Do not open the cabinet door or protective cover of the equipment, touch any terminal of the equipment, or remove any part of the equipment with power-on. Failure to comply may result in death or personal injury.

Power-on
WARNING Perform a trial run after wiring to ensure that the equipment operates safely. Failure to comply may result in personal injury or equipment damage.

Operation
DANGER • The equipment must be operated only by professionals. Failure to comply can result in death or personal injury. • Do not touch any connecting terminals or disassemble any unit or component of the equipment during operation. Failure to comply may result in an electric shock.
WARNING • Do not touch the enclosure, fan, or resistor with bare hands. Failure to comply may result in burns. • Prevent metal or other objects from falling into the equipment during operation. Failure to comply may result in a fire or equipment damage. • During operation, do not bring live parts into contact with the metal enclosure of the product. Failure to comply may result in a fire or equipment damage.
CAUTION • Operate the equipment under the required environmental conditions. Failure to comply may result in equipment fault or damage. • Touch the HMI panel with hands only during operation. Inovance assumes no responsibility for panel damage caused by excessive external force.
Safety recommendations • In positions where the operator directly touches the mechanical parts, for example, where a mechanical device is loaded/unloaded, or where a machine runs automatically, manually-operated devices or other alternative means must be carefully designed so that they are independent of the equipment to start or stop the automatic operation of the system. • If you need to modify the program while the system is running, use the lock function or other protection measures to ensure that only authorized personnel can make the necessary modifications.

Battery usage
WARNING • Do not use batteries that do not meet the equipment requirements. Failure to comply may result in death, personal injury, explosion, or a fire. • Do not throw batteries into a fire or heat oven. Do not crush or cut batteries. Failure to comply may result in death, personal injury, explosion, or a fire. • Do not expose batteries to extremely high temperatures. Failure to comply may result in death, personal injury, explosion, or a fire. • Do not swallow batteries. Failure to comply may result in chemical burns. • If a button battery is swallowed by accident, seek medical treatment immediately. Failure to comply may result in severe internal burns within two hours, which may cause death.
CAUTION • Keep the batteries away from children. • If the battery compartment is not shut tight, stop using the product and keep it away from children.

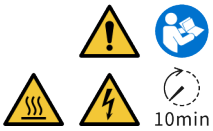
Maintenance
DANGER . Maintenance must be carried out by professionals who have received electrical trainings and have sufficient electrical knowledge. . Do not maintain the equipment with power-on. Failure to comply may result in an electric shock. . Before maintenance, disconnect all the power supplies of the equipment and wait for at least the time specified on the warning label. . Disconnect all external power supplies of the system before cleaning the equipment or re-tightening screws on the terminal block or screws for connector installation. Failure to comply may result in an electric shock. . Disconnect all external power supplies of the system before removing the equipment or connecting/removing wiring. Failure to comply may result in an electric shock or malfunction.
WARNING Perform routine and periodic inspection and maintenance on the equipment according to maintenance requirements and keep a maintenance record.

Repair
DANGER . Repair must be carried out by professionals who have received the electrical trainings and have sufficient electrical knowledge. . Do not repair the equipment with power-on. Failure to comply may result in electric shock. . Before inspection or repair, disconnect all the power supplies of the equipment and wait for at least the time specified on the warning label.
WARNING . Submit the repair request according to the warranty agreement. . When the fuse is blown or the circuit breaker or earth leakage circuit breaker (ELCB) trips, wait as specified on the product warning sign before power-on or further operations. Failure to comply may result in personal injuries, equipment damage or even death. . When the equipment is faulty or damaged, require professionals to perform troubleshooting and repair by following repair instructions and keep a repair record. . Replace quick-wear parts of the product in accordance with the replacement instructions. . Do not operate the damaged equipment. Failure to comply may result in death, personal injury, or severe equipment damage. . Recheck the wiring and reset the parameters after equipment replacement.

Disposal
WARNING . Dispose of retired equipment in accordance with local regulations and standards. Failure to comply may result in death, personal injury, or property damage. . Recycle retired equipment in accordance with industry waste disposal standards to avoid environmental pollution. . Treat the scrapped equipment as industrial waste. Dispose of the batteries according to local laws and regulations.

Safety labels

To ensure safe operation, comply with safety labels on the equipment and do not damage or remove the labels. The following table describes the meaning of the safety labels.

Safety labels	Description
	• Before using the equipment, read the guide and safety precautions carefully. Failure to comply may result in personal injury, death, or equipment damage. • Do not touch the terminals or remove the cover with power-on or within 10 min after power-off. Failure to comply may result in an electric shock. • The surface of the product may become very hot during operation. Do not touch these hot areas, as this may cause burns!

1.2 Industrial Information Safety

The product provides an interface to connect to the network and transmits data through the network interface. To protect factories, systems, machines, and networks from cyber attacks and ensure safe operation, a proper industrial information security protection mechanism must be implemented.

Customers are responsible for providing and maintaining a secure connection between the product and their network or any other network to protect their factories, systems, machines, and networks from unauthorized access. The system or machine can be connected to the enterprise network or the Internet only when secure connections are establishes and appropriate security measures are taken (such as using anti-virus software or installing firewalls).

Inovance is committed to continuous development and improvement of the products and solutions to improve the level of safety. It is strongly recommended to keep your products updated and always use the latest version.

Caution

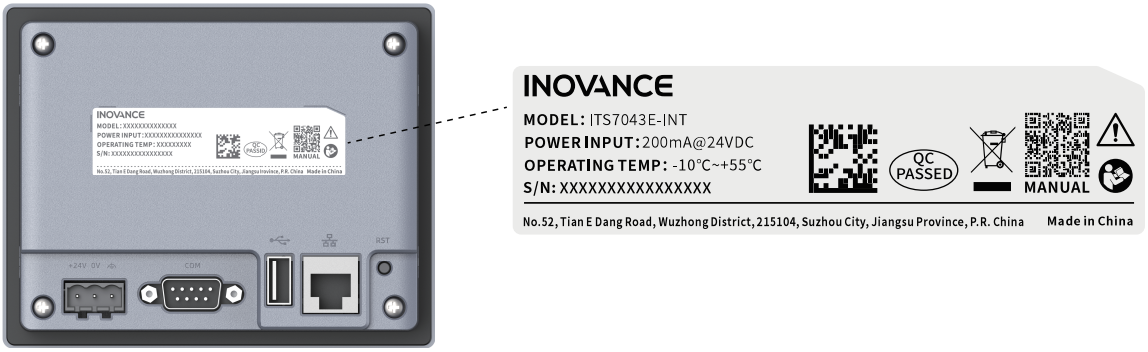
Tampering with software (such as viruses, Trojans, and Worms) can lead to unsafe drivestate, which can put the device in an unsafe operation state. This may result in death,serious injury, and property damage. Observe the following strictly.

- Always use the latest software version. If the product version is no longersupported or the latest version of the program is not applied, customers are atincreased risk of cyber-attacks.
- Take proper protection measures (including but not limited to deploying antivirussoftware, firewall, WAF, IPS/IDS, situational awareness system, IDverification, and data encryption) to prevent files in the mobile storage devicefrom being damaged by malware and protect products, networks, systems, andinterfaces from unauthorized access, disturbance, intrusion, data disclosure, orinformation theft.
- Check all safety-related interfaces and settings after commissioning.

2 Product Information

2.1 Nameplate and Model

Nameplate



Naming rules

ITS 7 043 S - INT
① ② ③ ④ ⑤

① **Product Category** ITS: Economic HMI	② **Product Series** 7: 7000 series
③ **Screen Dimensions** 043: 4.3''	④ **Performance Type** • S: Standard performance • E: Enhanced performance
⑤ **Customer Code** • Null: N/A • INT: International version	-

2.2 Basic Parameters

Item	Product Model	
	ITS7043E-INT	ITS7043S-INT
Product feature	Enhanced type	Standard type
CPU	Dual-core Cortex-A7	
RTC	Supported	
DRAM	128 MB	
Flash	128 MB	
Serial port	Male connector COM1 (RS422/RS485) COM2 (RS232) COM3 (RS485)	Male connector COM1 (RS485) COM2 (RS232)
Ethernet port	One Ethernet port 10 Mbps/100 Mbps	Not supported

Item	Product Model	
	ITS7043E-INT	ITS7043S-INT
USB Type-A interface	One USB Type-A interface Speed standard: USB 2.0 Supports FAT32 (with a maximum capacity of 32 GB and a single file size limit of 4 GB) and exFAT file systems. Note: The USB Type-A port only provides current within 200 mA.	
SD card	Not supported	
One-key recovery	Supported	
Input voltage	24 VDC ± 20%	
Rated input current	200 mA@24 VDC	
Display Dimensions	4.3''	
Resolution	480 x 272	
Brightness (cd/m²)	350	
Display color	16.7 million different colors	
Backlight source	LED	
Display type	Horizontal screen/vertical screen	
Backlight lifetime	30000 h	
Touchscreen type	4-wire resistor type	
Mounting hole dimensions (mm)	120 × 94	
Overall dimensions (mm)	128 × 102 × 33	
Enclosure color	Inovance medium gray	
Net weight	Approx. 231 g	Approx. 225 g
Altitude	< 2000 m	
Ambient temperature	-10°C to +55°C	
Transportation temperature	-40°C to +70°C	
Storage temperature	-20°C to +60°C	
Ambient humidity	10% RH to 95% RH, without condensation	
Cooling method	Natural ventilation	
IP rating of the panel	Front panel: IP65; rear cover: IP20	

Note

- The design sevice life of the built-in button battery is five years. The actual service life varies with the operating conditions (temperature and humidify).
- Transport at the extreme temperatures (-40°C/+70°C) may result in a slight bulge of the membrane. The bulge disappears automatically at room temperatures, which does not affect its function.

3 Mechanical Design

3.1 Installation Requirements

Installation precautions

Before installation, ensure that the controller is powered off.

- To avoid damage to the product, do not drop or strike on the module enclosure, terminal block, or connector.
- Do not disassemble the controller. Otherwise, the controller may be damaged.
- Do not fasten with excessively high tightening torque to avoid damage to the terminal.

Installation environment

This product is designed to operate in a temperature range between -10°C to +55°C, exceeding of which may result in damage to the HMI components, malfunction, or performance degradation. For use in special environments, contact Inovance.

- Do not install the HMI in environments suffering from strong mechanical vibration.
- Install the HMI in the panel with a depth of over 100 mm and reserve a surrounding clearance of at least 25 mm.
- Install the HMI away from cables and devices that generate strong interference, such as AC power supply cables, PLC output modules, AC drives, and relays. Use shielded cables for input and output, and ground them properly.
- The front panel of the HMI complies with the requirements of IP66. When the HMI is correctly installed in an IP66-rated cabinet, the complete cabinet must comply with the requirements of IP66, which means liquid sprayed on the cabinet cannot get into it.

3.2 Installation Dimensions

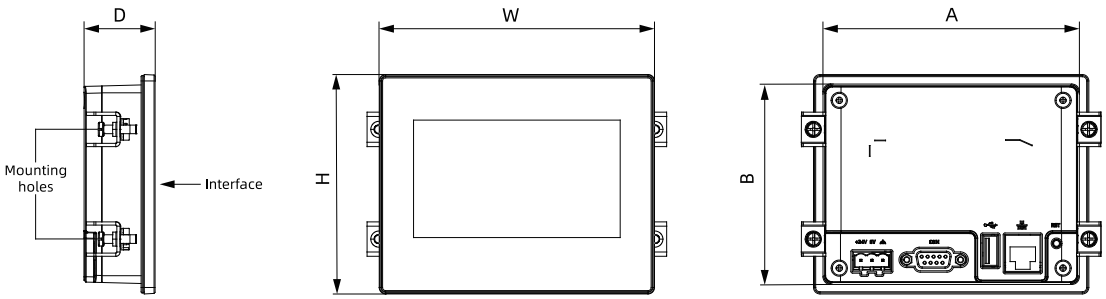


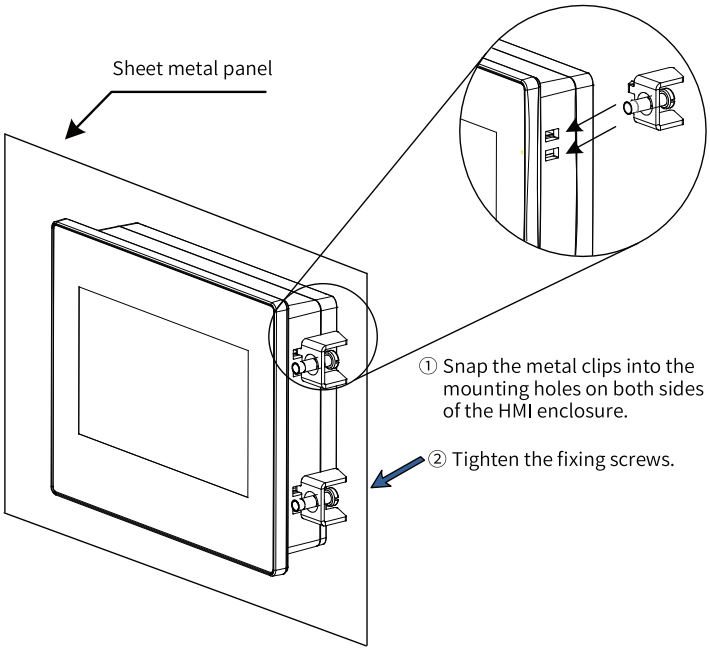
Figure 3-1 Product dimensions

Model	Display Dimensions (inch)	Outline Dimensions W x H x D (mm)	Installation Dimensions A × B (mm)	Recommended Cut-Out Dimensions (mm)	
				A + 2	B + 2
ITS7043E-INT	4.3	128 × 102 × 33	118 × 92	120	94
ITS7043S-INT					

3.3 Installation Method

Procedure

1. Put the HMI into the pre-drilled mounting hole in the panel.
2. Snap the four metal snap-fit joints (delivered by default) from the back of the panel into the four mounting holes on both sides of the enclosure (step ① in the figure below).



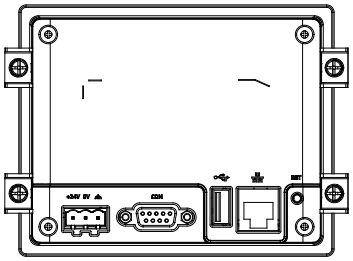
3. Tighten the mounting screws one by one until the HMI is secured to the panel (step ② in the figure below). Recommended torque: 6.0±0.5 kgf·cm (to ensure water resistance and prevent deformation).

Caution

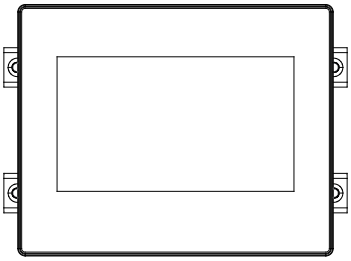
- WARNING! Do not overtighten the mounting screws. If there is any question, contact Inovance.
- To comply with IP66 sealing specifications, ensure all the metal clips delivered (accessories of Inovance, ordering code: 80240221) are used and the curvature of the panel is no greater than 0.010° after installation.

4 Electrical Design

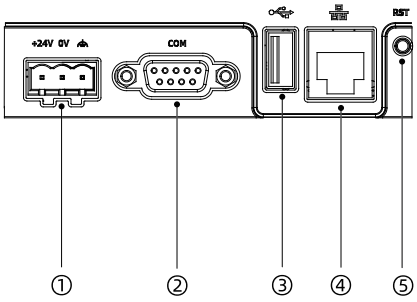
4.1 Terminal description



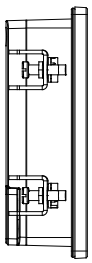
Rear view



Front view

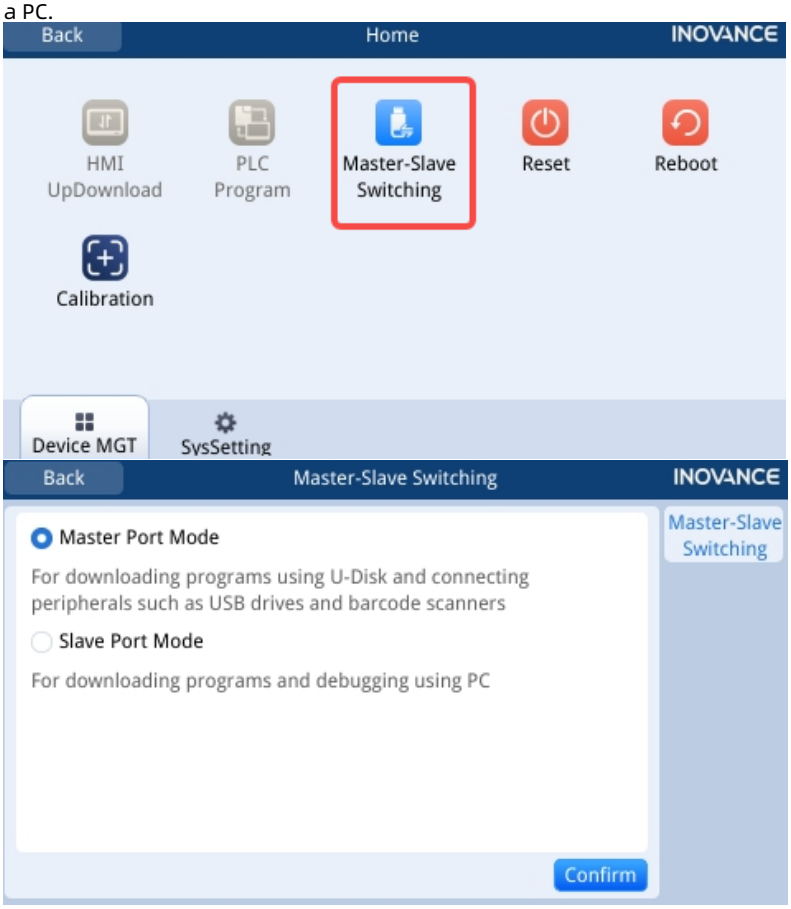


Enlarged rear view



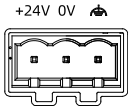
Side view

No.	Name	Function
①	Power supply interface	24 VDC power input
②	DB9 male	ITS7043E-INT has built-in COM1, COM2, and COM3 serial communication ports. • COM1: RS422/RS485 interface. • COM2: RS232 interface • COM3: RS485 interface
		ITS7043S-INT has built-in COM1 and COM2 serial communication ports. • COM1: RS485 interface • COM2: RS232 interface

No.	Name	Function
③	USB Type-A port	You can select master port mode or slave port mode by selecting "Device MGT > Master-Slave Switching" in the control panel: • Master port mode: Used for downloading programs via USB drive, connecting USB drives, barcode scanners, and other peripherals. • Slave port mode: Used for downloading programs and commissioning with a PC. 
④	Ethernet port	Ethernet communication port (RJ45) used to access the PLC with LAN port ***Note*** Currently, only ITS7043E-INT series product supports the Ethernet port.
⑤	RST button	Press and hold the RST button while powering on the device to restore to factory settings.

4.2 Power Supply Terminal

The following figure shows connection of the power supply terminal.

Diagram	Name	Description
	+24 V	Connect power supply terminal (+) to 24 V.
	0 V	Connect power supply terminal (-) to 0 V.
	⏚	Grounding

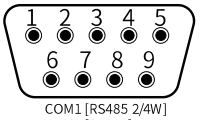
Inovance provides a full set of accessories for the power supply terminal and installation of the product. The specific accessories are shown in the table below.

Type	Quantity	Applicable HMI	Ordering No.
Power supply terminal	1	ITS7043 series 4.3-inch screen products	80240221
Metal snap-fit joint (with screws)	4		
Packing bag	1		

4.3 DB9 Male Connector and Matching Communication Cables

DB9 male connector of ITS7043E-INT

ITS7043E-INT provides one DB9 communication port (DB9 male connector) and three built-in independent serial communication ports for connecting the PLC, AC drive, printer or other intelligent devices. The HMI is built-in with multiple communication protocols and usually acts as the communication master to access the data in external devices. The following figure shows the terminal structure and silk printing.



COM1 [RS485 2/4W]
COM2 [RS232]
COM3 [RS485]
DB9 male connector
(Ejector-type signal slot)

The DB9 male connector of ITS7043E-INT has three built-in serial communication ports, namely COM1, COM2 and COM3. The pins are described in the following table.

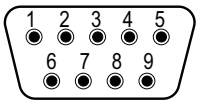
Pin No.	Signal			
	COM1[RS485] 2 Wires	COM1[RS485] 4 Wires	COM2[RS232]	COM3[RS485]
1	-	-	-	RS485-
2	-	-	RS232 RXD (receive data)	-
3	-	-	RS232 TXD (transmit data)	-
4	-	TX+ (transmit positive)	-	-
5	GND (signal ground)			
6	-	-	-	RS485+
7	RS485-	RX- (receive negative)	-	-
8	RS485+	RX+ (receive positive)	-	-
9	-	TX- (transmit negative)	-	-

Note

COM1 [RS485] 4-wire port is COM1 [RS422].

DB9 male connector of ITS7043S-INT

ITS7043S-INT provides one DB9 communication port (DB9 male connector) and two built-in independent serial communication ports for connecting the PLC, AC drive, printer or other intelligent devices. The HMI is built-in with multiple communication protocols and usually acts as the communication master to access the data in external devices. The following figure shows the terminal structure and silk printing.



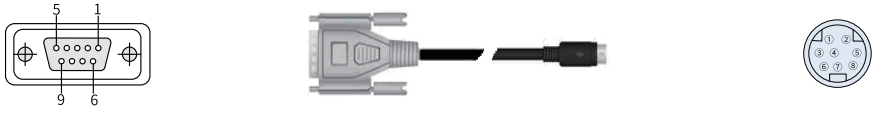
COM1 [RS485 2W]
COM2 [RS232]
DB9 male (ejector-type signal slot)

The DB9 male connector of ITS7043S-INT has two built-in serial communication ports, namely COM1 and COM2. The pins are described in the following table.

Pin No.	Signal	
	COM1[RS485] 2 Wires	COM2[RS232]
1	-	-
2	-	RS232 RXD (receive data)
3	-	RS232 TXD (transmit data)
4	-	-
5	GND (signal ground)	
6	-	-
7	RS485-	-
8	RS485+	-
9	-	-

Communication cable for DB9 male connector

Inovance provides prefabricated communication cable options for DB9 male connector on this equipment (part number: IT7-H3U-CAB, ordering number: 1504AX53).



Cable Connector and Pin	DB9 Female Connector		8-Pin DIN Circular Plug	
Signal Level	RS422		RS422	
-	Pin No.	Signal	Pin No.	Signal
Internal connection of cables	7	RX-	4	TX-
	8	RX+	7	TX+
	9	TX-	1	RX-
	4	TX+	2	RX+
	5	GND	3	GND
Applicable HMI and interface	ITS7043E-INT and ITS7043S-INT		• Inovance H1U/H2U/H3U RS422 communication interface • Mitsubishi FX1N/2N/3U/3G RS422 communication interface	
HMI user program setting for use of the cable	In the HMI user project, configure the COM1 interface of the ITS7043E-INT model as "RS422/RS485"; configure the COM1 interface of the ITS7043S-INT model as "RS485". The HMI and PLC must be set with the same communication protocol and data format.			

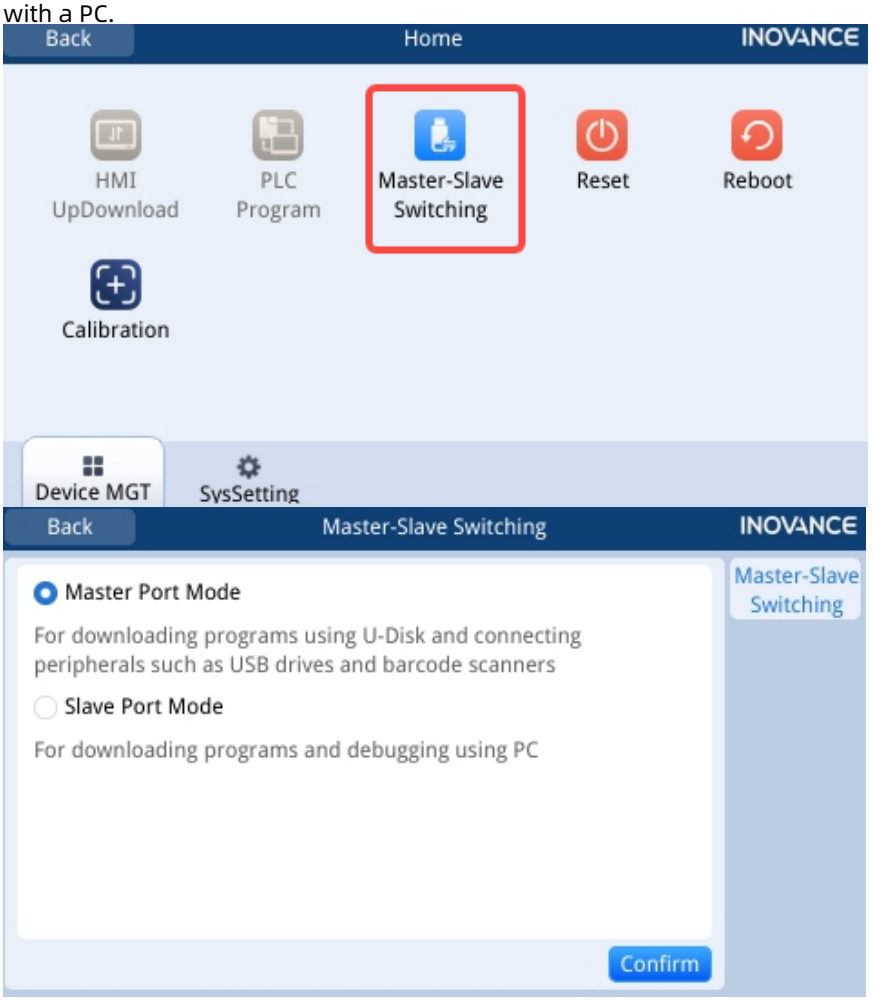
Note

- Cable requirements: Different cables are required for connection of different external devices. Do not lay the communication cables together with the AC power cables or near electrical noise source. Do not plug/remove the communication cables during communication.
- To avoid communication problems, ensure that the communication cable does not exceed 150 m when connecting RS485/422 devices. It is recommended to connect termination resistors in parallel at both ends of the bus (with a recommended resistance of 120 Ω).
- In case of communication failure, the screen keeps displaying the fault message "Connection failed: connection_1, station 1. err:10001", until communication is successfully established.
- If the communication cable is long or passes through an environment with electrical noise, use a shielded cable.

4.4 USB Terminal

USB Type-A terminal

Item	Specification
Applicable model	ITS7043 series
Number of output channels	1

Item	Specification
Master/Slave mode	You can select master port mode or slave port mode by selecting "Device MGT > Master-Slave Switching" in the control panel: • Master port mode: Used for downloading programs via USB drive, connecting USB drives, barcode scanners, and other peripherals. • Slave port mode: Used for downloading programs and commissioning with a PC. 
Communication rate	USB 2.0 full speed
Document type	Supports FAT32 (with a maximum capacity of 32 GB and a single file size limit of 4 GB) and exFAT file systems.
Communication distance	1.5 m
Power supply to outside	5 V/500 mA
Short-circuit protection	Supported
Master/Slave stations	Supports manual switch between master/slave stations

4.5 Ethernet Terminal

Item	Specification
Applicable model	ITS7043E-INT
Number of output channels	1

Item	Specification
Output connecting mode	Standard Ethernet interface (no indicator for RJ45)
Output type	Ethernet
Output speed	10 Mbps/100 Mbps self-adaptive
Communication distance	Network cables of CAT5E or higher, 100 m
Master/Slave stations	Master/Slave supported

Touch Screen Calibration

Troubleshooting

In case of unresponsive or abnormal touch issues, check and address the following:

- Check if the protective film on the surface of the touchscreen is not removed. If so, remove the protective film before use.
- Check if the fixing screws are overtightened during product installation, resulting in touch screen deformation. If so, loosen the screws to the recommended tightening torque (6.0±0.5 kgf·cm) before use.

Calibration

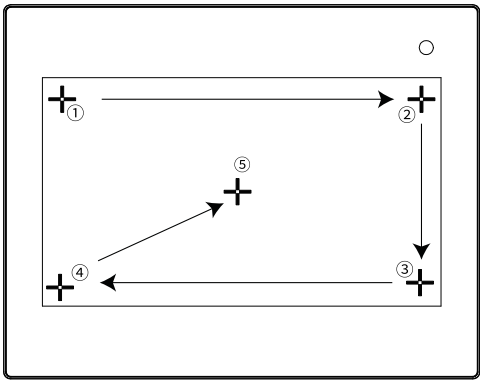
After troubleshooting, the touch calibration program can be used for calibration. The procedure is as follows.

1. Entering the calibration program
   Access the program through the system setup menu: After the HMI is powered on and the screen displays "Long press to enter the setup screen", gently press the screen with your finger until the screen displays "Release to enter the setup screen". After you enter the system setup password, the system setup menu pops up, then tap "Calibrate".

2. Detailed steps

   a. After entering the calibration mode, you will see "⊹" in the upper left corner of the screen (as shown below).
   b. Use the stylus or your finger to tap the center of "⊹". After tapping, "⊹" moves in the direction indicated by the arrows below. Tap each point where "⊹" moves.
   c. After the 5-point calibration is completed, "⊹" will disappear. Tap the blank space of the screen to exit; if the calibration fails, "⊹" will return to the upper left corner of the screen and you must repeat the calibration.

The calibration process is shown below.



Service and Support

Should you encounter a safety accident during the use or operation of the product, or face challenges in operating and maintaining the equipment, which remain unresolved after the relevant documentation is consulted, we provide multiple channels to ensure prompt resolution:

- Channel #1: Contact service@inovance.com.
- Channel #2: Visit https://www.inovance.com/global to access document downloads, after-sales support, spare parts ordering, repair applications, and authenticity verification services.
- Channel #3: Download My Inovance app (https://zshc-eu.inovance.com/download-pc/) where you can access products info and documentation, and query product parameters.

We are committed to providing you with quick and professional technical support, and we look forward to your satisfaction and trust.

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